

MINUTES

CALIFORNIA TRAFFIC CONTROL DEVICES COMMITTEE MEETING OF March 5, 1998

The first meeting of the CTCDC in 1998 was held in the Headquarters Auditorium of Caltrans, in Sacramento on March 5, 1998.

Chairman Ray Mellen opened the meeting at 9:03 a.m. with the introduction of members and guests. The Chairman thanked Caltrans for their gracious hospitality on behalf of the Committee.

The following members, alternates, and guests were in attendance:

ATTENDEES	ORGANIZATION	TELEPHONE
Members (Voting)		
Ray Mellen Chairman	Auto Club of Southern California	(714) 885-2301
John Wallo Vice Chairman	California State Association of Counties, San Luis Obispo County	(805) 781-4466
Bruce Carter	California State Association of Counties, Shasta County	(530) 225-5661
Dick Folkers	League of California Cities, City of Palm Desert	(760) 346-0611
Dwight Ku	California State Automobile Association, Sacramento	(916) 443-2577
Jerry Meis	California Department of Transportation, Sacramento	(916) 654-4551
Capt. Ron Newton	California Highway Patrol, Sacramento	(916) 657-7222
Wayne Tanda	League of California Cities, City of San Jose	(408) 277-4945
Jack Kletzman Secretary	California Department of Transportation, Sacramento	(916) 654-4715

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ATTENDEES	ORGANIZATION	TELEPHONE
Mark Bertacchi	California Office of Traffic Safety	(916) 262-0985
Rick Blunden	Caltrans, Sacramento	(916) 653-0036
Butch Breault	City of Davis	(530) 757-5686
Bob Brow	Sacramento County	(916) 875-5327
Tim Buetos	City of Davis	(530) 757-5686
Sompol Chatusripitak	Caltrans, Sacramento	(916) 654-2701
Sam Ehsan	Caltrans, Sacramento	(916) 654-5039
Harold Garfield	Consultant	(916) 487-2869
Michael Harrison	Light Guard Systems	(707) 542-4547
Jim Harritt	Davis Police	(530) 756-3740
Norman Hawkins	Hawkins Traffic Safety Supply	(510) 525-4040
Jim Larsen	Tulare County	(209) 733-6291
Lujuanna Lopez	CHP	(916) 657-7222
Perry Lowden	Consultant	(530) 673-2214
Norman M. Owen	Attorney	(707) 544-6947
Dave Pelz	City of Davis	(530) 757-5686
John Reynolds	Caltrans, Fresno	(209) 488-4194
Sal Rosano	NHTSA, San Francisco	(415) 744-3089
David Tanemoto-Weerts	UC Davis	(530) 752-2453
Ed von Borstel	City of Modesto	(209) 577-5266
Chao Wez	Caltrans, Los Angeles	(213) 897-7712
Robert Zeigler	Marin County	(415) 499-6336

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MOTION: By Dick Folkers, second by Bruce Carter, to adopt the minutes of the Santa Ana meeting, held on November 5, 1997. Motion carried 8-0.

MEMBERSHIP

A special plaque and standing ovation were given to Wayne Tanda in recognition of his Chairmanship.

90-7 BICYCLE SIGNAL HEADS

Dave Pelz recalled that starting in 1990, the City of Davis developed, installed, and tested bicycle signal heads. In 1996 Pelz brought back to the Committee a report entitled "The Use of Bicycle Signal Heads at Signalized Intersections." Pelz handed out an update of the report containing current accident statistics, correspondence with the CHP, proposed changes for the Vehicle Code, proposed design criteria, and proposed warrants. He believes the statistics show very good results with respect to accident reduction. In the 34 months prior to installation there were 10 auto/bicycle accidents and in the subsequent 38 months there were only 4 such accidents. The auto/auto and auto/pedestrian collisions have stayed about the same.

Dave Pelz noted that the Committee had reviewed the test site in the field and requested approval of the bicycle signal heads. Wayne Tanda felt that the proposed device did not appear to confuse motorists because the bicycle head is so different from a standard signal. Pelz said that the number of seconds dedicated to the bicyclist was determined by field experience based on the activities of the bicycle riders. Pelz ultimately arrived at a 4 second yellow on the bicycle phase followed by a 2 second red. Minimum yellow time should be established by the geometrics of a particular intersection. Wallo suggested the guidelines consider topography in hilly areas in establishing minimum yellow time. Dick Folkers pointed out that in hilly terrain the yellow could be different for each direction.

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90-7 BICYCLE SIGNAL HEADS (continued.)

Ray Mellen established that there were no significant changes to the intersection besides the bicycle signal. Dave Pelz attributes the separation of auto and bicycle traffic phases as the main factor responsible for increasing safety at the intersection. Pelz told the Committee that the U.C. campus newspaper ran some articles about the installation of the new signals. Surveys taken by Pelz indicate that people readily adjusted to the new system. There are advanced warning signs for the intersection but no extraordinary steps were taken to keep this in front of the public.

Wayne Tanda explained that the Committee considers these signals to be a non-standard traffic control device, permitted under experimentation, because their meaning is not covered in the Traffic Manual nor Vehicle Code. Tanda said the Committee concluded that their use would require Legislative changes to the Vehicle Code to differentiate between vehicles and bicycles on right-of-way. He maintains that this device would not be appropriate at every intersection.

Dave Pelz said that the proposed warrants were far lower than the traffic at the Russell Blvd./Sycamore Lane intersection. Pelz said that the warrants were closer to another test intersection with small school children. Ron Newton noted that the Committee felt as though only a few communities in California would have use for these devices, namely those with large bike populations. Newton suggested the proposed warrants might be too low and inconsistent with this concept. Pelz agreed that the application of this device should be minimized. Pelz believes the proposed warrants work for the City of Davis but was willing to accept modifications from the Committee which may make the warrants more restrictive.

Ron Newton was concerned that the proposed changes in legislation does not seem to alter Vehicle Code Section 21200 which states, that bicyclists have all the rights and responsibilities of the operators of a motor vehicle. Dave Pelz responded that Section 21456.2 (NEW), sub-item A, proposes that unless directed by a bicycle signal as provided in Section 21456.3 (NEW), the operator of a bicycle shall obey the provisions applicable to the driver of a vehicle. Newton was seeking for an amendment to Section 21200.

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90-7 BICYCLE SIGNAL HEADS (continued.)

Dave Pelz explained that they were assisted in writing the proposed draft legislation by Alan Wachtel of the California Bicycle Advisory Committee. Dick Folkers established that no group was in opposition to the Davis project. The project appears to be supported by the University, the community, and the City.

John Wallo suggested that the last design criteria be made a warrant use the wording, "That bicycle signals shall only be installed in conjunction with other traffic signals." Wallo recalled that the City of San Diego wanted to install bicycle signals in a park where a path crossed a city street. There was no control on the city street, only for the bicycle. Ray Mellen recalled a similar experience in the City of Irvine. Dick Folkers established that the City of Davis is using two devices, a standard head with the lens altered to block out light coming through a bike symbol and an LED bike symbol head.

Butch Breault explained that the signal had loop detectors and was a fully actuated signal. The bicycle loops in the north south direction which will add extension time to hold the green for moving bicycles. Rick Blunden said that CBAC felt that this device was something that deviated from the Traffic Manual and from Section 21200. Blunden feels that concern has been adequately addressed by the City of Davis with its efforts to establish warrants for the use of the signal heads and proposed changes in the Vehicle Code. He said CBAC was supportive of this project and feels this device would be useful in other communities with high concentrations of bicycle traffic, seeking to reduce motor vehicle/bicycle accidents. Blunden said that CBAC was not directly involved in developing the proposed warrants.

Wayne Tanda feels the proposed warrants are too low and may be off by a factor of ten. The warrants require only 50 or more bicycles/hour for any 4 hours while the Russell Blvd./Sycamore Lane intersection has 1100 bicycles/hour during the peak period. It is the 1100 bicycles/hour that make the intersection special. Tanda recommended additional work on the warrants. Ray Mellen recalled that the Committee requested the development of warrants, standards, and draft legislation and that step has been carried out. Mellen agreed that the warrants were too low.

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90-7 BICYCLE SIGNAL HEADS (continued.)

Ray Mellen does not want these devices installed in relatively low bicycle volume intersections because it would be confusing and expensive. Rick Blunden agreed. Mellen surmised that some bicyclists, especially the more proficient, may not want a separate traffic phase.

Jim Harrit said there had been no additional enforcement at the Russell Blvd./Sycamore Lane intersection. Harrit told the Committee, that those responsible for law enforcement of that intersection, agreed there was less to do, and there is less time spent at the intersection, since the installation of the test device. David Takamoto-Weerts feels confident about public education efforts because the 4,000 new students, most of whom ride bicycles, seem to adapt readily to the new signal heads. Tim Bustos told the Committee that the proposed warrants were based on the Pole Line-Loyola site. This site has an elementary school and a junior high school on either side of an arterial which generates a lot of young children bicycle traffic. Bustos, acknowledging that these volumes were much lower than the Russell Blvd./Sycamore Lane intersection, was willing to adjust the warrants. He said these warrants would allow the City to use the new device on three or four new intersections because they have these signals at most of the intersections the City deems appropriate. The City is not looking to use this device at all intersections and he agreed the proposed device should be used judiciously.

Dick Folkers suggested that the new device should meet regular signal warrants, be along a route activity or major activity center, be where there are bikeways or pathways, only be installed in conjunction with regular traffic signals, and have a minimum volume in the area of 250-300. Folkers recommended the item should be moved along and that Caltrans should establish the warrants. Gerry Meis agreed that if Caltrans adopts this as an official control device, that Caltrans work with the City of Davis to establish the warrants and bring it back to the Committee.

Sompol Chatusripitak said he wanted to look closely at the visibility issues, the safety issues, and costs. He feels there is an urgency for his office to get involved with the issue and be of assistance to the Committee as soon as they can.

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90-7 BICYCLE SIGNAL HEADS (continued.)

Wayne Tanda thought it would be ideal if Caltrans brought back a set of warrants. Ray Mellen asked that the City of Davis be included in the process. He also requested that any draft be given ahead of time to the Committee, so they could study the issues and be prepared to act at the next meeting.

Wayne Tanda suggested referring the proposed legislative changes to the CHP. Ron Newton said that CHP would like some input with respect to the suggested legislative changes but realize that the City of Davis would have to acquire a sponsor in the Legislature. Ray Mellen concurred that the City of Davis should pursue an author with the draft as background for the proposed legislation. Newton said that the CHP routinely takes a position and comments on any transportation related bill working its way through the Legislature.

MOTION: By Dick Folkers, second by John Wallo, to recommend approval of the device and request Caltrans to draft warrants.

AMENDMENT: By Wayne Tanda, second by Bruce Carter, that the CHP and Caltrans review the City of Davis' draft legislation to identify any issues these agencies may have with any legislative changes. Amendment passed 8-0. *{Because of the subsequent discussion and a substitute motion, the original motion was never voted upon.}*

Gerry Meis said that Caltrans is willing to work closely with the City of Davis but would lean heavily on the City to do the work. Although not opposed to the legislation, Meis said that Caltrans would not sponsor legislation. He noted that the time for introducing new legislation has passed for this year and expressed concern about whether passing legislation or approval of the device should come first. Ray Mellen thought the primary responsibility for getting the legislation enacted lay with the City of Davis and that the twin efforts should be pursued in tandem. Wayne Tanda suggested the proposed device be approved, "subject to empowering legislation." He envisions the order to be, develop warrants, establish design standards, and upon approval the device become an Official Traffic Control Device. But not until appropriate legislation enables agencies to use the device which could take two years.

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90-7 BICYCLE SIGNAL HEADS (continued.)

Wayne Tanda said he would have difficulty supporting the Motion unless he knew what the warrants were. If used inappropriately the signals could cause more harm than good. He suggested the motion be changed to be made “subject to appropriate warrants.” Gerry Meis sensed that the Committee was not comfortable with the warrants from the City of Davis. Tanda thought that Caltrans should develop a reasonable set of warrants for the application of these devices, drafted by Electrical, Bicycle, and Traffic Operations personnel. He suggested going back to the original motion of recommending adoption of the concept, subject to the adoption of warrants agreed to by the Committee, and that it becomes an Official Traffic Control Device subject to empowering legislation. Tanda hoped that by next year there would be a warrant and a device which would not be published until there were legislation that makes it applicable.

Dick Folkers warned about leaving the City of Davis with an unapproved device between the acceptance of the final report and the enactment of legislation. This could be a substantial amount of time. Wayne Tanda theorized that the City of Davis City Counsel resolution, along with the experimental authorization from the Committee, empowers them to have this device in place. Tanda noted that under normal circumstances the device would either be approved by Caltrans or removed, but in the absence of State Legislation, no one has that authority.

MOTION: By Wayne Tanda, second by John Wallo, as a substitute motion, to continue the experiment subject to the development of warrants and legislative changes.

Motion passed 8-0.

MOTION: By Dick Folkers, second by Bruce Carter, to continue the experiment for two years. Motion passed 8-0.

ACTION: Item continued.

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Item 92-4A TRAFFIC SIGNAL DIMMING, CITY OF SAN JOSE

Wayne Tanda acknowledged Mr. Ron Northouse of the City of San Jose and Dr. Jan Botha of San Jose State University, who conducted the study. Tanda recalled that in 1992, the City proposed to dim 50 signals to 50% of normal input voltage, between 9:30 p.m. and 5:30 a.m. Upon approval by the CTCDC, the City of San Jose conducted the experiment and found a 12.7% cost savings in power consumption. The project was so successful that in 1994, the City requested an expansion to include an additional 300 signals. The total is about half the signal inventory for the City. A literature search found very little material on dimming.

Wayne Tanda told the Committee that, they broke the study into a “before” and “after” study of crash experience which was compared to a control group of intersections. The time frame for the study was two years “before” and two years “after” dimming was initiated. The devices were continually installed, and in 1995 the City started the “after” study with 210 of the 350 allotted intersections equipped for dimming. This was deemed an adequate sample. The control sites indicated a reduction of accidents from 1990-91 to 1995-96. Taking this reduction into account, the test intersections still showed a 17% increase in safety. They concluded that dimming does not make an intersection less safe.

Wayne Tanda explained there were two surveys to examine the perception of motorists. A roadside survey and a survey that used volunteers. They concluded that if a motorist was told the signal was dimmed, the motorist could, 3 out of 4 times, detect the difference. If a motorist was not told, the motorist could not detect any difference in the illumination of a dimmed signal. Tanda concludes that dimming of traffic signals, at night, does not have any significant effect on safety or operations. Dimming signals at night provides significant energy savings. He requested the Committee to endorse sending the study to the NCHRP and that the City of San Jose be allowed to continue dimming subject to any definitive conclusion reached by the NCHRP study concerning illumination at night.

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Item 92-4A TRAFFIC SIGNAL DIMMING, CITY OF SAN JOSE (continued.)

Ray Mellen established that with respect to age, the data shows a 49% reduction in the over 65 group, but the sample population was not statistically significant. Gerry Meis established that the City would like to submit this report for the NCHRP signal illumination level study. Tanda estimated that the NCHRP was about half-way through their study which will establish minimum illumination standards for traffic control signals. The NCHRP findings will find its way into changes at the State and Federal level.

Sompol Chatusripitak noted that the report indicated a substantial savings in power consumption but did not include the capital investment cost or maintenance costs. Chatusripitak was concerned that the report did not address environmental factors such as fog and inclement weather. Wayne Tanda responded that he did not know the initial cost but that the change in maintenance cost was negligible. Tanda said the effect of weather was in the report but was statistically insignificant. He said the thrust of the study was to determine if it were safe to dim rather than if it were of economical benefit to a jurisdiction. Tanda noted that many agencies, including San Jose, are turning to LEDs for red signal lights and the intent is to dim the amber and green signals lights.

Lew Roberts said that many of the current 170 third party programs include a dimming feature and there is no capitalization cost. The same is true for NEMA equipment. Older equipment can add the feature for about \$50. Roberts said dimming is accomplished by the 24 volt ground being varied at the rate of 60 cycles per second. This is equivalent to a half wave and the voltage is decreased by 50%.

MOTION: By Wayne Tanda, second by John Wallo, that the Committee accept the results of the San Jose study on traffic signal dimming, authorize the City to forward the study to the NCHRP, and allow the City to continue testing subject to any definitive conclusion reached by the NCHRP study concerning illumination at night. Motion passed 8-0.

ACTION: Item completed.

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Item 92-4B LED STUDY, CITY OF SAN JOSE

Wayne Tanda acknowledged Jaime Rodriguez of the City of San Jose and Anna Oakes of San Jose State University who prepared the report. Tanda told the Committee that after five years of testing one of the earlier versions of LEDs, the City felt they did not work. The City borrowed a Traffic Signal Photometer from Caltrans and tested six intersections where LEDs were installed. After four years the red LEDs had significant degradation and had to be removed. The City removed both the 8" and 12" signal heads. Tanda said that in a non-scientific, test used for comparison, a photometer was used on an 8" and 12" incandescent signal head and the lamps met or exceeded State standards. One year later the 8" degraded, the 12" lens stayed the same. There was a 45% savings in power consumption using LED red signal heads. There was poor reliability. There was a 29% reduction in accidents at the control intersections, but Tanda feels this is inconclusive. He felt it was important to complete the report and have the Committee accept it so that others were aware of the findings. Tanda said the City is using the recently adopted Caltrans specifications for LEDs. Several vendors met the specifications. The City put to bid a contract for 330 signals for a total value of \$700,000. Delivery is expected in a month with installation taking an additional 2¹/₂ months.

Sompol Chatusripitak told the Committee that Caltrans had been testing samples of red LED signal heads and found that they degraded at a greater rate than what had been expected. Chatusripitak said the industry is working diligently to improve the quality and longevity of the signal heads and he is hopeful that there will be progress to report by the next meeting. John Wallo pointed out that this was why it was so important for local agencies to do testing. He was concerned about the number of local agencies that are still using the same generation LED that the City of San Jose has discarded. Jack Kletzman announced that, in conformance with the Committee's request, a letter had been sent to the City of Fontana, the County of Sacramento, and Caltrans District 6, which announces that Caltrans has an approve specification. Wallo suggested sending a similar letter to all cities and counties.

MOTION: By Wayne Tanda, second by Bruce Carter, that the Committee accept the results of the San Jose study on LEDs. Motion passed 8-0.

ACTION: Item completed.

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Item 97-11 RAISED PAVEMENT MARKERS ON ISLANDS

Dick Folkers said that the City of Palm Desert was going through a literature search and asked the Committee for ideas on how to conduct the experiment. Wayne Tanda suggested the Committee identify what it wants from the experiment, what variables are to be measured, and what criteria should be used to determine if the device is appropriate for adoption. Tanda said his staff was concerned with motorists being use to driving over raised pavement markers and experiencing a tactile effect. Raised pavement markers, on top of curbs, might indicate to motorists a non-existent space, which could have very significant negative effects for motor cycles.

It appears to Wayne Tanda that a large sample would be needed for an extended period of time. Tanda also pointed out that the Guidelines for Experimentation require a work plan which, among other things, includes the variables to be measured, evaluation criteria, and data to be collected. The purpose in revising the Guidelines for experimentation was to avoid some past problems with experiments, experienced by the Committee. He feels it is unfair to the requester to be told by the Committee that something else was wanted after the Committee approved the experiment proposal. The requester should know, before he begins the experiment, what needs to be evaluated, so he can conduct the experiment efficiently. Ray Mellen concurred.

John Wallo suggested that placing a raised pavement marker on a curb is too limited and that a different kind of device, or different color, should be examined. He agrees with Tanda's concerns and hoped that a new device might send a different message to the motorist to enable recognition of the curb. Ray Mellon expressed concern that there might be serious hazards in inclement weather should the motorist mistake the curb for part of the traveled way. Wallo also thought the experiment should examine different spacing.

Ray Mellen established that the consensus of the Committee was that the Request for Experimentation be refined to address these concerns. Dick Folkers agreed. Wayne Tanda recalled that Sacramento County had done something similar and suggested using their data to expand the study.

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Item 97-11 RAISED PAVEMENT MARKERS ON ISLANDS

Bob Brow reiterated that Sacramento County had placed raised pavement marker on tops of island curbs for years. The County then had to send out crews to clean the markers because of accumulated scum. It became cost prohibitive and the markers were no longer put on the island curbs. Brow found that the tire scrubbing action doesn't work because motorists tend to avoid raised pavement markers. More scrubbing action was obtained from street sweepers. Detail 26 in the Traffic Manual allows markers by themselves at 24' intervals when there is adequate contrast between the shoulder and traveled way. Brow assumes the island to be the shoulder in this case and that is what the County used. He checked the records and found there is no recorded history of someone hitting an island because the markers were on top of the curb. There have been claims when a motorist hit the beginning of an island. Moving the location of the raised pavement markers was done for the expediency of keeping them clean.

Dick Folkers said the City of Palm Desert discarded the idea of mounting the markers on the side of the curb because of the ease with which they could be knocked off by traffic. Wayne Tanda had suggested the side mounting to take advantage of the scrubbing of street sweepers, the marker would not be 6" high, and it would be consistent with raised markers being allowed on New Jersey barriers. *[Raised pavement markers are not standard on New Jersey barriers. There are various types of reflectors, listed in the Approved Products List, which are allowed on New Jersey barriers.]*

Bruce Carter thought that there would be difficulty in resolving any safety issue, resulting from markers on top of an island curb, by accident statistics. Dick Folkers said that, based on Sacramento County's experience, there hasn't been much of a safety problem in tangent sections. Everyone has problems with motorists hitting the end of the island. Folkers said City concern about noise and loosing pavement markers was the reason they were considering placing the markers on top of the curb. The City is instituting a higher intensity raised pavement marker when restriping. Dick Folkers thought he would provide a more defined experiment proposal investigating the ends of islands.

ACTION: Item continued.

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PUBLIC COMMENTS

Norm Hawkins said the disabled parking signs, approved by Caltrans, were a tow away sign (R100B), a wheel chair symbol sign (R99), and a VAN ACCESSIBLE plate (R99A). These three signs are the only legal disabled parking signs in California. Hawkins believes there is a proliferation of disabled parking signs in every size, shape, and color imaginable. The Vehicle Code says that these non-standard signs should be taken down by local authorities, yet they remain. The fine is \$275. Hawkins in support of a family member, who was cited, went to the police, the traffic engineer, and the traffic court, and all said the violator should get a ticket regardless of whether the sign was legitimate. He appealed to Municipal Court where the ticket was thrown out. He objects to having to go through all this because of illegal signs. This happens throughout California. Norm Hawkins suggested that a notice go out to all traffic engineers throughout the State recommending only proper signs be used for disabled parking and removal of the non-standard signs.

Dick Folkers pointed out that motorists violate disabled parking zones regardless of the sign used. Folkers is from an area with a large population of elderly and handicapped. He sees a lot of young people, using their grandparents car, parking illegally. He doesn't think the sign is the problem and appreciates the police ticketing illegally parked cars. Folkers is of the opinion that when people blatantly park in disabled parking, even though it is the wrong sign, the intent of the law is to nail the violator. He agrees with Hawkins' request for uniformity, but feels that most people who are parking illegally understand the slot is reserved for the disabled and are blatantly violating the intended use.

Norm Hawkins responded that he was not addressing the issue of ticketing violators, but the legal standing of signs. The officer must cite a section of the Vehicle Code when he issues a ticket. If the sign is not legal, then the officer has an invalid citation. Ray Mellen agreed that there were too many non-standard signs, particularly in commercial areas. Mellen suggested a reminder that the CTCDC exists, Caltrans set standards for Official Traffic Control Devices, and that these standards should be used. John Wallo said that the CTCDC minutes is the best way to contact local agencies. Hawkins feels that the use of illegal signs doesn't help enforcement of disabled parking violations. Ray Mellen feels that illegal parkers, who intentionally park in disabled parking, abuse the system when they beat the ticket, because they knew they should not be parking there, whether the sign was legal or not.

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INFORMATION ITEMS

93-10 SIGNING, LIME-YELLOW SPECTRUM

Bruce Carter said he was still waiting to hear from the FHWA. Carter believes the FHWA intends to use this color for school zones. Jack Kletzman recalled that, at the request of the Committee, he contacted Mr. Matt Schmitz (Sacramento) and Mr. Lloyd Rue (Denver) of the FHWA. They believe the final report will be available around September and that it will pass. Carter thinks they are having trouble with the signs. Kletzman said any such signs will probably be a “may” condition.

97-10 TRB RESEARCH FOR LOCAL AGENCIES

Gerry Meis recalled that Caltrans got a letter from TRB which noted that most TRB research deals with transportation problems at the State level and asked if they should widen the focus for local agency level problems. Meis brought this to the Committee and the consensus was there should be more research for local agency transportation problems. He said Caltrans had sent a letter to TRB reflecting this opinion.

95-9 LEFT TURN LANE PROTECTED/PERMISSIVE SIGN

Jack Kletzman said that a letter went to the City of Lake Elsinore notifying the City that the Committee had rescinded its permission to experiment. Kletzman told the City about San Jose’s similar experiment with, what might be a superior device. The individual that was the proponent of the experiment had left the City of Lake Elsinore, and they did not wish to pursue the project. Dick Folkers said he had sent the City a few letters and had gotten no response.

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OFF AGENDA ITEMS

TRAFFIC MANUAL CHAPTER 8

Wayne Tanda asked about the timing for receipt and distribution of Traffic Manual chapters. He pointed out that the date of Chapter 8 is January 19, 1996 and he received his in January 1998. Gerry Meis said there had been a metric conversion and he had thought copies had been sent out. Jack Kletzman said that copies of Chapter 8 were not sent out separately because a new manual was being produced and all the chapters for the manual were sent out at one time. Normally chapters are sent out when they are completed. Meis said Caltrans would try to get the manual on the Internet by the end of the year.

Wayne Tanda noted that the Traffic Manual talks about studies which recommend not setting the speed limit below the 85th percentile because of safety. He had asked the Secretary for a list of the studies and it was presented to the Committee. Jack Kletzman said he had also FAXED a copy to Ed Cline of ITE. Ray Mellen told the Committee that there was legislation in progress AB 2222 which may eliminate the need for Engineering and Traffic Surveys with respect to radar citations.

John Wallo expressed concern that the final version differed substantially from the version he saw in 1996. He wanted to get a final draft before Caltrans published the chapter. Wallo pointed out that Section 8-02.2 E refers to Loading Zones when it means taxi and bus stands. He feels there should have been an "F" section for loading zones. Jack Kletzman said that the Committee normally gets a near final draft for review, but there can be changes between what the Committee reviews and the final version, because there are other reviewers. Gerry Meis said much of the chapter was taken from the MUTCD. Subsequent to the recent printing of the MUTCD was the issue of an errata sheet for the MUTCD which Caltrans is in the process of adding to the Traffic Manual. Wallo reiterated his request that chapters of the Traffic Manual come before the Committee when Caltrans is as close to a final draft as possible. Ray Mellen suggested that the Committee be informed about substantive changes made to a draft chapter already approved by the Committee. Mellen also recommended that this information need not wait for the next meeting.

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OFF AGENDA ITEMS (continued.)

JAKE BRAKES

Ron Newton told the Committee that there have been a few municipalities that had attempted to prohibit the use of engine retarders (Jake brakes.) on commercial vehicles at certain downgrades. Some of those signs had been enforced. Newton wanted to bring attention to the fact that those signs are not approved traffic control devices and are not legal. The CHP published an Informational Bulletin regarding this issue dated November 20, 1997, entitled Use of Engine Retarders (Jake Brakes.)

SCHOOL BUSES

Bruce Carter noted that at the beginning of this year AB1297, concerning school bus flashing lights, went into effect. Carter said that rural communities were complaining about the law and about the lack of public notification. Ray Mellen said the new law only changed what the school districts had to do and did not change motorist behavior. Carter surmised that the cause of the change was a motorist who did not obey existing law and because of this more flashing lights were added. Gerry Meis said the new legislation was precipitated by a death. Mellen believes there is some legislation in progress which will loosen the requirement when flashing lights have to be displayed. Carter observed that some bus drivers are still waiting for motorists to pass before putting on their flashing lights and that is not what the law says. There seems to be a lot of confusion for both motorists and bus drivers.

Dwight Ku explained that proposed legislation describes different types of roadways that would be exempted from AB 1297. Some motorists have developed a habit of how to follow a school bus. Turning on the flashing lights creates a new condition for the motorist that he previously did not have to face. This causes a lot of confusion. He concurs with Mellen's contention, that the rules for the motorist haven't changed. Ku noted that the effect of AB1297 was a shift in emphasis for school districts, from identifying unsafe stops, to assuming every stop was unsafe, unless designated otherwise. The proposed legislation would not repeal AB1297 but would restore motorists behavior back to the expected on certain roadways in rural areas.

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OFF AGENDA ITEMS (continued.)

93-18 CROSSWALKS, SEQUENTIAL LIGHTING

Gerry Meis recalled that the Committee had recommended to Caltrans that the device be adopted and that Caltrans develop appropriate specifications. Meis said he had considerable conversations with Caltrans staff in a number of functional areas and he received very little support for the device. He said vendors frequently come to Caltrans with new products and there are a number of new products committees. The first decision made by one of these committees is to determine if there is a need for the product on State highways. His contacts indicated there wasn't much of a need for this device because there is a device which already performs this function. Meis said he found no support from local agencies in the files. To preclude litigation, Meis wants to insure that any approval is based on rational grounds and is of benefit to the motorist.

Gerry Meis referring to a letter sent to members, dated February 24, 1998, noted there were five issues to be addressed. No independent statement from local agencies endorsing this device or indicating how this device will improve safety. Caltrans has sponsored three different studies over the last twenty years on marked crosswalks at unsignalized intersections. These studies concluded that, in general, unmarked crosswalks were the safest. Would a lit crosswalk give a pedestrian a false sense of security? Is the flashing beacon a more effective device? Is there anything being done at the Federal level? Caltrans would not extend any marker $\frac{3}{4}$ " above the pavement.

[The letter viewed with favor any traffic control device that has potential for improving safety, but said additional data was needed before approving the device. Caltrans listed several concerns and recommended further experimentation.]

Ray Mellen noted that there was a response dated March 4, 1998 from Steve Weinberger. Jack Kletzman said he had distributed a copy to each member, but because it arrived that morning, no one has had an opportunity to read the response. John Wallo supported the view of having an unbiased independent consultant evaluate further testing. Gerry Meis said he felt the report was good but that he would feel more comfortable to hear from a public agency that might be the subject of litigation. Ray Mellon cautioned that the Committee should not make decisions based on whether someone will be sued.

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OFF AGENDA ITEMS (continued.)

93-18 CROSSWALKS, SEQUENTIAL LIGHTING (continued.)

Ray Mellon reading from Steve Weinberger's letter said that since they were under contract to the test site cities, Weinberger was acting as the cities agent and had the endorsement of the cities. Gerry Meis and John Wallo were looking for an additional independent evaluation.

Sal Rosano said that almost all the points raised by Gerry Meis' letter are issues which had been debated by the Committee, and for which the Committee requested and received additional information, over a four year period. These issues had been considered, except for the long term benefit for accident reduction, particularly as it relates to pedestrian safety. The long term benefit will not be known until 5 to 15 years after hundreds of locations have been installed. Long term benefit cannot be determined in a 2 or 3 year study. In order to determine if this is a viable option for pedestrian safety, the device needs to be tried long term.

Sal Rosano contended that Steve Weinberger was representing the test site cities. At the CTCDC meeting in July there were a number of city engineers in attendance. If Rosano had known that Gerry Meis wanted to hear from city engineers he would have paraded the twenty that had been calling him requesting installation before the Committee. Rosano said there is substantial support for this system. He has a list of twenty city engineers that have written to Caltrans asking for guidelines. They want to proceed because there is a need. The only definitive studies on pedestrian safety, done in the last five or ten years, advocated eliminating crosswalks because they don't protect the pedestrian. There may be some validity to this study where crosswalks are inappropriate. But the tens of thousands of crosswalks and school crossings, where this device may be suitable, are not going to be eliminated..

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OFF AGENDA ITEMS (continued.)

93-18 CROSSWALKS, SEQUENTIAL LIGHTING (continued.)

Sal Rosano said change is what makes things safer for us. Acting on the basis of potential litigation is not in the public interest. The City of San Francisco is prepared to install five or six new test sites. They have applied to the Office of Traffic Safety for funding to evaluate those sites. San Francisco and at least twenty other cities are waiting for Caltrans guidelines. It is these cities that perceive the need and are not satisfied with the existing standard of an overhead flasher. Rosano told the Committee that the cities will finance the capital expenditure, install the device in their roadways, evaluate the device, and risk any litigation. All Caltrans has to do is prepare specifications or guidelines. The Committee doesn't need to hear more from the cities, the cities want to proceed.

Sal Rosano said the Committee, in July, 1997, following four years of analysis and discussion, was satisfied that it was appropriate to refer the matter to Caltrans. Caltrans could reject the proposal out of hand. Rosano surmises that Gerry Meis hasn't done that because Meis suspects there may be some merit to the proposal. All the data to date indicates there is merit to the proposal. Rosano had researched literature for the last year and had found no study, in California, that determined overhead flashers accomplish anything. He said that the Crosswalk Warning System evaluation presented to the Committee in July found a relationship in reduced speed, increased breaking distance, and reduction in accidents. He acknowledged that it will take ten years before it is known whether these devices work.

Sal Rosano agreed with Gerry Meis that there needs to be 200 sites over ten years to really demonstrate that the value of the system. We can't get there unless there is a mechanism to do it. Rosano believes the Committee has done its job and its up to Caltrans to publish the guidelines and collect the data or reject it out of hand and have the cities remove the existing installations. He pointed out that it would be cumbersome to track data from the test sites over the next ten years and doesn't believe its the Committee's role. Since the Committee changes members every two to three years it would be impossible to garner any consistency over that period of time. It should be the pervue of Caltrans to track that data. The cities are waiting for some direction.

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OFF AGENDA ITEMS (continued.)

93-18 CROSSWALKS, SEQUENTIAL LIGHTING (continued.)

Sal Rosano doesn't believe that the perceptions, that there is no need or there is potential litigation, is sufficiently weighted against proceeding with this system. Everyone who sees these devices says that it is interesting, it makes sense, it ought to be tried. Rosano doesn't understand why there is so much resistance to try something new, when cities are prepared to put their money and reputations on the line.

Gerry Meis expressed his discomfort at not having any letter from any person in responsible charge, from the test cities, supporting the conclusions of the Crosswalk Warning System evaluation report. The only letter in the file is a letter from the City of Los Angeles indicating they prefer a different system, which uses approved traffic control devices. Meis feels this is not sufficient grounds to make a decision adopting the device for use in California. Sal Rosano responded that there was the action of the Committee, and the report submitted to the Committee was on behalf of the test cities, who paid for it with funds from the Office of Traffic Safety. Rosano said he could supply all the letters Meis would like, because the test city engineers want to proceed with the experiment.

Gerry Meis was concerned about political decisions overriding traffic engineering decisions on using these devices. This is especially true after a nasty vehicle/pedestrian accident and the jurisdiction wants the public to know that is reacting to the situation. Meis said he needs some sound fundamental evidence to insure the device will do some good before he can approve the system. Meis suggested additional testing by public agencies.

Wayne Tanda, reading from Gerry Meis' letter, noted that Caltrans will be initiating a study of pedestrian safety within the next few weeks, and as a part of that study will develop a recommendation about crosswalk lights. Tanda suggested that Caltrans incorporate into this study, the additional gathering of data from an expanded number of test cities. He concluded that, if that were the case, the matter would not need to come back to the Committee.

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OFF AGENDA ITEMS (continued.)

93-18 CROSSWALKS, SEQUENTIAL LIGHTING (continued.)

Gerry Meis explained that Caltrans views this matter as a local agency problem. Since the CTCDC represents local agencies, Meis would like the Committee to authorize continued experimentation. He reiterated that there was not much support at Caltrans for using these devices on State highways and would prefer the Committee's involvement.

Ray Mellen responded that the Committee is advisory to Caltrans on all traffic control issues and not on just local issues. Mellen noted that the Committee has made a recommendation and feels that the matter does not need to come back to the Committee, yet he would like an independent study of the accident experience and the continuation of the experiment for additional data.

Sal Rosano pointed out that Caltrans sets standards and light specifications for cities in urban and rural areas. He reiterated his position that Caltrans should set the guidelines and the local communities will pay for the installation, evaluate the device, and give Caltrans the data. Rosano said that most of the devices would not be on the State highway system. He acknowledged that when there is a serious accident at a school crosswalk, normally involving a young person, there is an emotional response for public officials to do something. He feels it is unacceptable to offer taking out the crosswalk as a solution. Ray Mellen responded that the studies advocating crosswalk removal were not referring to school crosswalks. Rosano said that Steve Weinberger is an independent objective professional engineer hired by the test cities because of his expertise in this area. Rosano feels the Committee does not want to collect data for the next ten years and best way to proceed is for the cities to install devices and report their findings to Caltrans so that the guidelines will result in specifications.

Sal Rosano said he represents National Highway Traffic Safety Administration which supports the Crosswalk Warning System. They fund the Office of Traffic Safety which in turn funded the test cities study. He said that the FHWA is undertaking a similar study out of a Carolina university and the issue may be going before a nation wide FHWA committee.

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OFF AGENDA ITEMS (continued.)

93-18 CROSSWALKS, SEQUENTIAL LIGHTING (continued.)

Harold Garfield said that this item had been brought before the National Committee on Uniform Traffic Control Devices at the January 1988 meeting. Garfield said the devices were being used in the States of Illinois and Maryland. He said Caltrans has specifications for internally illuminated pavement markings which were used in 1996 in San Deigo on an off-ramp from I-5. The only difference is that the color of these devices were red. Garfield understood the Committee is attempting to approve an illuminated pavement marker. What the local agencies want to use these pavement markers for is up to them. He said Caltrans has used green, red, and yellow illuminated pavement markers on State highways. Garfield suggested that the Committee not focus on pedestrian crosswalk but approve an illuminated pavement marker. *[Caltrans does not consider this system as an approved device at this time.]* Dick Folkers suggested that the existing installations are acceptable if Caltrans has such specifications and the devices adhere to that specification. *[Although such markers were installed in the San Deigo area, they were installed under a special provision of a particular contract. The Office of Office Engineers told me it never reached the level of a Standard Special Provision.]*

Mike Harrison noted that the Committee is attempting to develop guidelines based on the data that was received from the test sites. Harrison said he came to the Committee in 1993 with a new concept to use a device at crosswalks to establish a safer place to cross the roadway. He has developed suggestions for light placement, spacing, direction, and height and now believes that guidelines can be developed. Data from all the test sites should be combined and given to Caltrans so they may issue guidelines for further experimentation. Harrison finds it difficult, from a developers perspective, to work within a system that keeps changing. He feels that the Crosswalk Warning System final report is good and the system has potential for saving lives. He urged the Committee to go forward and issue the guidelines so that cities can use the device.

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OFF AGENDA ITEMS (continued.)

93-18 CROSSWALKS, SEQUENTIAL LIGHTING (continued.)

Dick Folkers reading from the previous minutes said, "Gerry Meis recalled that the Committee recommended that Caltrans develop a set of specifications for lighting crosswalks." Gerry Meis said everyone has the same objective and that is to continue experimentation and the question is how to proceed. Caltrans does authorize experimentation where significant benefits to the State Highway System may be gained. Meis requested the local agencies to assist Caltrans and does not want to hinder a local agency from testing these devices. Folkers suggested FAXing a letter, to those agencies wishing to experiment, saying Caltrans is working on the specifications and the local agency is free to proceed with the experimentation as requested.

Sal Rosano objected because the whole four year study was devoted to arriving at a set of guidelines which were recommended to Caltrans. If those guidelines aren't provided to the cities it would be starting all over again. He advocated giving the local agencies some guidelines based on the experience to date. Ray Mellen pointed out that the Committee had already taken the action to recommend these guidelines to Caltrans and he is not sure that another action can be taken. Rosano agreed with the Committee taking no action. His view is that it is up to Meis to promulgate the specifications.

Wayne Tanda feels that there would not be a problem if Caltrans staff objected to using this device on State highways. He suggested developing guidelines which preclude use on State highways. Similar to mid-block STOP signs. Tanda feels that some control is needed to avoid having inappropriate installations. The Committee being the control is counter to the By-laws. Tanda suggested Caltrans develop a task force which would include local agencies. The CTCDC does not need any additional information for its recommendation.

Ray Mellen established that the consensus of the Committee was that no further action was needed.

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STATUS OF EXPERIMENTS

Item 94-10 PEDESTRIAN SIGNAL HEAD

Bruce Carter said The County of Sacramento got two of the four new intersections with “before” studies completed and new signal heads in place. They hope to have the remaining intersections done soon. They plan to complete the “after” studies in the next five weeks.

Item 96-3 ILLUMINATED LEFT TURN YIELD SIGN

Wayne Tanda said both locations were designed and two signs are currently being installed. The final report is expected in the latter part of 1998.

Item 97-9 ELECTRIC MESSAGE SIGNS AND ARROW BOARD

Jack Kletzman said there is a financial problem for this fiscal year. Caltrans is still seeking a contract with Cal Poly for assistance with the experiment. It is expected to be financed in the next fiscal year.

ADJOURNMENT

MOTION: By Bruce Carter, second by Ron Newton for adjournment.

Motion carried 8-0. The meeting was adjourned at 12:45 pm.

CALTRANS ACTIONS

Item 90-7 BICYCLE SIGNAL HEADS

Waiting for enabling legislation. Caltrans will begin developing standards when the legislation is in progress.

Item 92-4A TRAFFIC SIGNAL DIMMING, CITY OF SAN JOSE

Experiment in progress.

Item 92-18 GOLF CART SYMBOL SIGN

Caltrans will make the sign specifications upon receiving the FHWA approved symbol sign from the City of Palm Desert.

Item 93-10 SIGNING, LIME-YELLOW SPECTRUM

Committee is awaiting results from the FHWA.

Item 93-18 CROSSWALKS, SEQUENTIAL LIGHTING

Caltrans is sending letters to interested jurisdictions for continued experimentation.

Item 94-10 PEDESTRIAN SIGNAL HEAD

Experiment in progress.

Item 96-3 ILLUMINATED LEFT TURN YIELD SIGN

Experiment in progress.

Item 96-7 SPEED LIMIT SIGNING

Caltrans is reviewing the Committee's recommendation.

Item 97-9 ELECTRIC MESSAGE SIGNS AND ARROW BOARD

Caltrans is waiting for financial approval to negotiate with Cal Poly for testing.